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EXAMINER

BODDIE, WILLIAM

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,913

Applicant(s)

GREEN, DAVID

Examiner

William Boddie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/25/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by a publication by Yoshio Iwai et al. titled, "Gesture Recognition by Using Colored Gloves" (Pattern Recognition, 1996., Proceedings of the 13th International Conference on; Publication Date: 25-29 Aug. 1996; Volume: 1; pages: 662 - 666 vol.1).

With respect to claim 26, Iwai discloses, a system for providing control signals to a computer, said system comprising: a tube-like member adapted to reside on a finger of a computer user (colored glove in fig. 1), said member having a distinct knuckle surface color and a distinct palm surface color (note the different knuckle and palm colors in fig. 4); a camera operatively connected to the computer and adapted to view said member (fig. 4a caption, also section 4, 2nd para.); and means for converting a member surface color viewed by the camera into a control signal for the computer (table 2; shows computer recognition of input sign language signals).

With respect to claim 27, Iwai discloses, the system of claim 26 (see above), wherein the tube-like member further comprises a distinct tip surface color (clear from fig. 1).

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 7, 9-11, 14 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pryor (US 6,750,848) in view of Hansen (US 6,275,214).

With respect to claims 1 and 14, Pryor discloses, a system for providing control signals to a computer, said system comprising: a member adapted for hand-held, or adapted to reside on a finger as in claim 14, for use by a computer user (member in fig. 3); light emitting means disposed on said member (301 and 302 in fig. 3), a camera operatively connected to the computer and adapted to view said member and said light emitting means (100 in fig. 3); and means for converting a color viewed by the camera into a control signal for the computer (col. 4, lines 16-23; also see Abstract discussion of controlling a computer display).

Pryor does not expressly disclose, said light emitting means are adapted to emit a first color responsive to a first member condition, and a second color responsive to a second member condition.

Hansen discloses, a hand-held optical pointer (24 in fig. 1) that generates an external cursor in one of two user-selectable colors (col. 3, lines 35-37; also note buttons on the pointer in fig. 1; member condition is equivalent to a user's button selection of color). Hansen also discloses that a camera (14 in fig. 1) detects the cursor

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and its color, then a computer (10 in fig. 1) processes the image to generate commands for the computer (col. 3, lines 22-62).

Pryor and Hansen are analogous art because they are both from the same field of endeavor namely, hand-held computer input means using image detection.

At the time of the invention it would have been obvious to include the user-selectable color means, taught by Hansen, on the finger input device of Pryor.

The motivation for doing so would have been to emulate position or contest-dependent commands such as a "left/right-click" command as seen on common pointing devices (Hansen; col. 3, lines 56-59).

Therefore it would have been obvious to combine Hansen with Pryor for the benefit of emulating very common commands to obtain the invention as specified in claim 1.

With respect to claim 7, Pryor and Hansen disclose the system of claim 1 (see above).

Pryor further discloses wherein said member comprises a tube-like member adapted to reside on a finger of the computer user (fig. 3).

With respect to claim 9, Pryor and Hansen disclose, the system of claim 1 (see above).

Pryor further discloses a wand member to be held by the computer user (col. 10, lines 12-17).

With respect to claim 10, Pryor and Hansen disclose, the system of claim 1 (see above).

Pryor further discloses, wherein said member further comprises a distinct knuckle surface color (200 in fig. 2) and a distinct palm surface color (208 in fig. 2, col. 3 lines 56-65; col. 4, lines 58-61).

With respect to claim 11, Pryor and Hansen disclose, the system of claim 1 (see above).

Pryor further discloses, wherein said camera comprises a web cam (col. 1, lines 50-52, teaches digital TV cameras that are included in laptops, this is equivalent to a "web cam").

With respect to claim 25, Pryor discloses, a method of providing control signals to a computer using a camera (105 in fig. 3) and a tube-like member having a light emitting means (301,302 in fig. 3) and a power source disposed thereon (a power source is inherent in order to light the LEDs) said method comprising the steps of: placing the member on a finger on a hand of a computer user (fig. 3); placing the member and the hand in the camera field of view (fig. 3).

Pryor does not explicitly disclose selectively varying the position of the member; selectively connecting the power source to the light emitting means to emit a first color or a second color responsive to the member position; detecting a change in the color of the light emitting means in the camera field of view; and generating a computer control signal responsive to the detection of a change in the light emitting means color.

Hansen discloses, selectively varying the position of a member; selectively connecting the power source to the light emitting means to emit a first color or a second color responsive to the member position (col. 3, lines 35-37, discloses changing

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amongst one of two user-selected colors, this color selection process is equivalent to a different member position); detecting a change in the color of the light emitting means in the camera field of view (col. 3, lines 52-55); and generating a computer control signal responsive to the detection of a change in the light emitting means color (col. 3, lines 55-62).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include color-emitting means that are user-selectable, as taught by Hansen, in the tube-like member of Pryor.

The motivation for doing so would have been to emulate position or contest-dependent commands such as a "left/right-click" command as seen on common pointing devices (Hansen; col. 3, lines 56-59).

Therefore it would have been obvious to combine Hansen with Pryor for the benefit of emulating mouse clicks to obtain the invention as specified in claim 25.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Broughton (US 1,335,272) in view of Hansen (US 6,275,214).

With respect to claim 18, Broughton discloses, a tube-like member adapted to reside on the finger of a computer user (fig. 1), said member having a knuckle surface (12 in fig. 2, for example), a palm surface (13 in fig. 2, for example), and a tip surface (14 in fig. 2); and light emitting means disposed on said member (16 in fig. 2), said light emitting means adapted to emit a first color when said member is in a first position.

Broughton does not expressly disclose, providing control signals to a computer, or a second color being emitted when said member is in a second position.

Hansen discloses, an optical pointer (24 in fig. 1) used to input control signals to a computer. The optical pointer generating an external cursor which depending upon a member position (user's color selection means) emits one of two colors (col. 3, lines 35-37).

Hansen and Broughton are analogous art because they are from the same field of endeavor namely, hand-held light emitting devices used to relay signals.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the multiple color selection means of Hansen in the signal light of Broughton.

The motivation for doing so would have been the ability to convey even more information when using the signal light.

Therefore it would have been obvious to combine Broughton and Hansen for the benefit of more effective information transmission to obtain the invention as specified in claim 18.

6. Claims 19-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Broughton (US 1,335,272) in view of Hansen (US 6,275,214) further in view of Pryor (US 6,750,848)

With respect to claim 19, Hansen and Broughton disclose, the system of claim 18 (see above).

Broughton further discloses, a portable battery (21 in fig. 4, col. 2, lines 86-92) selectively connected to a first and second light (16 in fig. 1).

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Neither Broughton nor Hansen explicitly disclose, wherein said light emitting means comprises: a first LED adapted to emit the first color; a second LED adapted to emit the second color.

Pryor discloses, a first LED adapted to emit the first color (301 in fig. 1); a second LED adapted to emit the second color (302 in fig. 1, col. 4, lines 58-61).

Pryor, Hansen, and Broughton are all analogous art because they are all from the same field of endeavor namely, hand-held light-emitting members generating control signals.

At the time of the invention it would have been obvious to one of ordinary skill in the art to replace the lights of Broughton and Hansen with the LEDs of Pryor.

The motivation for doing so would have been the decreased power requirements and general size of LEDs over conventional bulbs.

Therefore it would have been obvious to combine Broughton with Pryor and Hansen for the benefit of power conservation to obtain the invention as specified in claim 19.

With respect to claim 20, Broughton, Pryor, and Hansen disclose the system of claim 19 (see above).

Broughton further discloses, selectively connecting and disconnecting lights with the battery in response to member conditions (12 in fig. 4).

With respect to claim 21, Broughton, Pryor, and Hansen disclose the system of claim 19 (see above).

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Broughton further discloses, a first light is disposed on the tip surface of said member (16 in fig. 1).

With respect to claim 22, Broughton, Pryor, and Hansen disclose the system of claim 19 (see above).

Pryor further discloses, wherein said second LED is disposed on the knuckle surface of said member (301 in fig. 3, col. 3, lines 27-33).

With respect to claim 24, Broughton and Hansen disclose the system of claim 18 (see above).

Neither Broughton nor Hansen disclose, wherein said member further comprises a distinct knuckle surface color and a distinct palm surface color.

Pryor discloses, wherein said member further comprises a distinct knuckle surface color (200 in fig. 2) and a distinct palm surface color (208 in fig. 2, col. 3 lines 56-65; col. 4, lines 58-61).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the differently colored surfaces, taught by Pryor, in the system of Broughton and Hansen.

The motivation for doing so would have been to augment the contrast of objects used in the application (col. 3, lines 56-58) and thus making camera detection easier and more reliable.

Therefore it would have been obvious to combine Pryor with Hansen and Broughton for the benefit of augmenting the contrast of the object to obtain the invention as specified in claim 24.

7. Claims 12-13 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pryor (US 6,750,848) in view of Hansen (US 6,275,214) further in view of Pryor (US 2002/0036617; hereafter referred to as Pryor-2002).

With respect to claim 12, Pryor and Hansen disclose, the system of claim 1 (see above).

Neither Pryor nor Hansen explicitly disclose, wherein said camera further comprises a mirrored lens surface.

Pryor-2002 discloses, a camera that comprises a mirrored lens surface (para. 114, 733, 749).

Pryor, Hansen, and Pryor-2002 are all analogous art because they are all from the same field of endeavor namely hand-held computer input means using image detection.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include a mirrored lens surface as taught by Pryor-2002 on the camera of Pryor and Hansen.

The motivation for doing so would have been to increase the resolution of the lens (Pryor-2002, para. 114) as well as to allow the user to 'preview' the input image to the camera.

Therefore it would have been obvious to combine Pryor-2002 with Pryor and Hansen for the benefit of previewing the image to obtain the invention as specified in claim 12.

With respect to claim 13, Pryor and Hansen disclose, the system of claim 1 (see above).

Neither Pryor nor Hansen explicitly disclose, wherein said member comprises a finger puppet.

Pryor-2002 discloses a member comprises a finger puppet (550, 560 in fig. 5c).

At the time of the invention it would have been obvious to one of ordinary skill in the art to create the member of Pryor and Hansen in the form of a finger puppet as taught by Pryor-2002.

The motivation for doing so would have been to aid in educating young children (Pryor-2002, para. 66).

Therefore it would have been obvious to combine Pryor, Pryor-2002, and Hansen for the benefit of educating young children to obtain the invention as specified in claim 13.

With respect to claim 23, Pryor, Hansen, and Pryor-2002 disclose the apparatus of claim 12 (see above).

Pryor-2002 further discloses, wherein the first position comprises a pointed finger position and the second position comprises a closed finger position (para. 340-350, teaches all the different gestures that are detected by the camera).

8. Claims 2-6, 8, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pryor (US 6,750,848) in view of Hansen (US 6,275,214) and further in view of Broughton (US 1,335,272)

With respect to claims 2 and 15, Hansen and Pryor disclose, the system of claim 1 (see above).

Pryor further discloses, wherein said light emitting means comprises: a first LED adapted to emit the first color (301 in fig. 1); a second LED adapted to emit the second color (302 in fig. 1, col. 4, lines 58-61).

Neither Pryor nor Hansen explicitly disclose; a battery selectively connected to said first LED and said second LED.

Broughton discloses a portable battery (21 in fig. 4, col. 2, lines 86-92) selectively connected to a first and second light (16 in fig. 1).

Pryor, Hansen, and Broughton are all analogous art because they are all from the same field of endeavor namely, hand-held light-emitting members generating control signals.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the portable battery, as taught by Broughton, to power the LEDs of the Pryor-Hansen system.

The motivation for doing so would have been to remove any encumbrances from the user, such as being tethered to an electrical outlet.

Therefore it would have been obvious to combine Broughton with Pryor and Hansen for the benefit of a wireless input device to obtain the invention as specified in claim 2.

With respect to claims 3-4 and 16-17, Broughton, Pryor, and Hansen disclose the system of claim 2 (see above).

Broughton further discloses, selectively connecting and disconnecting lights with the battery in response to member conditions (12 in fig. 4).

With respect to claim 5, Broughton, Pryor, and Hansen disclose the system of claim 2 (see above).

Both Broughton and Hansen further disclose, light-emitting means disposed on a tip surface (Broughton 16 in fig. 1,2; Hansen 24 in fig. 1).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include light-emitting means on the tip of the member of Pryor.

The motivation for doing so would have been to eliminate the need and dependence on the illumination means used by Pryor to detect the tip of the finger (Pryor, col. 2, lines 59-64).

Therefore it would have been obvious to combine Pryor, Hansen, and Broughton for the benefit of a more effective device to obtain the invention as specified in claim 5.

With respect to claim 6, Pryor, Hansen and Broughton disclose, the system of claim 2 (see above).

Pryor further discloses, wherein said second LED is disposed on a knuckle surface of said member (301 or 302 in fig. 3, col. 3, lines 27-33).

With respect to claim 8, Pryor and Hansen disclose, the system of claim 7 (see above).

Neither Pryor nor Hansen disclose, wherein the first member condition comprises a pointed finger position and the second member condition comprises a closed finger position.

Broughton discloses two member conditions that directly affect the status of the light-emitting means. The first member condition is a pointed finger position (index finger in fig. 1,2). The second member condition is a closed finger position (middle finger in fig. 1,2).

At the time of the invention it would have been obvious to one of ordinary skill in the art to manipulate the light-emitting means of Pryor and Hansen with pointed and closed finger positions as taught by Broughton.

The motivation for doing so would have been the inherent simplicity of the gestures to generate the computer signals.

Therefore it would have been obvious to combine Pryor, Hansen, and Broughton for the benefit of simplicity to obtain the invention as specified in claim 8.

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being anticipated by a publication by Yoshio Iwai et al. titled, "Gesture Recognition by Using Colored Gloves" (Pattern Recognition, 1996., Proceedings of the 13th International Conference on; Publication Date: 25-29 Aug. 1996; Volume: 1; pages: 662 - 666 vol.1) in view of Pryor (US 2002/0036617; hereafter referred to as Pryor-2002).

With respect to claim 28, Iwai discloses, the system of claim 26 (see above).

Iwai does not expressly disclose, wherein the tube-like member comprises a finger puppet.

Pryor-2002 discloses a member comprises a finger puppet (550, 560 in fig. 5c).

Iwai and Pryor-2002 are analogous art because they are all from the same field of endeavor namely hand-held computer input means using image detection.

At the time of the invention it would have been obvious to one of ordinary skill in the art to create the member of Iwai in the form of a finger puppet as taught by Pryor-2002.

The motivation for doing so would have been to aid in educating young children (Pryor-2002, para. 66).

Therefore it would have been obvious to combine Pryor-2002 and Iwai for the benefit of educating young children to obtain the invention as specified in claim 28.

10. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable by a publication by Yoshio Iwai et al. titled, "Gesture Recognition by Using Colored Gloves" (Pattern Recognition, 1996., Proceedings of the 13th International Conference on; Publication Date: 25-29 Aug. 1996; Volume: 1; pages: 662 - 666 vol.1).

With respect to claim 29, Iwai discloses the system of claim 26 (see above).

While Iwai does not expressly disclose the tube-like member is comprised of paper, this would have been an obvious choice of material for constructing the tube-like member as it would have been the least costly by far.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee et al. (US 6,160,899) discloses a camera based input device utilizing both a ring and a colored wand (fig. 4a-b). Andersson (US 6,243,491) discloses a hand-held device that mechanically changes color this color change being detected by a camera. Finally Baer (US 4,540,176) teaches a puppet that is used to generate computer control signals.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Will Boddie whose telephone number is (571) 272-0666.

The examiner can normally be reached on Monday through Friday, 7:30 - 4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wlb
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